INTERNATIONAL TELECOMMUNICATION UNION

**WRC-2000** WORLD RADIOCOMMUNICATION CONFERENCE

**Addendum 12 to Document 12-E 17 April 2000 Original: English**

ISTANBUL, 8 MAY – 2 JUNE 2000

**PLENARY MEETING**

## United States of America

## PROPOSALS FOR THE WORK OF THE CONFERENCE

**Agenda item 4 - in accordance with Resolution 95 (WRC-97), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation**

**Proposal to amend Resolution 728 (WRC-97)**

**Background information**

The proposal herein amends Resolution 728 to invite additional studies on feasibility of, and techniques to facilitate, sharing between non-GSO MSS (space-to-Earth) transmissions and digital television systems in the band 470-862 MHz; and to invite WRC-06 to consider the results of these studies with a view to including in the agenda of a future conference additional allocations on a worldwide basis in the band 470-862 MHz for the non-GSO MSS in accordance with Resolution 728.

Resolution 728, adopted at WRC-97, resolved in part:

1 to invite ITU-R to carry out studies to determine operational and technical means that may facilitate co-frequency sharing between narrow-band non-GSO MSS (space-to-Earth) transmissions and the services to which the band 470-862 MHz is allocated, including the bands where the broadcasting service is also allocated;

2 to invite a future competent conference to consider, on the basis of the results of the studies referred to in *resolves* 1, the possibility of making additional allocations on a worldwide basis for non-GSO MSS …

Existing Recommendations of ITU-R indicate that operation of narrow-band non-GSO MSS transmissions might be feasible at the edges of analogue television channels where the TV signal is least sensitive to interference. However, ITU-R Recommendations have not identified the protection ratios for digital television systems. To the extent that protection ratios for digital television are similar to those for analogue systems, the same conclusions on the feasibility of sharing would apply.

The proposed revision of Resolution 728 invites additional study of sharing, including consideration of digital television systems.

The existing Resolution does not identify a specific conference at which additional allocations to non-GSO MSS in the band 470-862 MHz could be considered. Therefore, it is foresighted and prudent to designate WRC-06 to review studies to date in order to establish the next conference at which allocations could be considered.

The proposed revision of Resolution 728 invites WRC-06, a conference that would convene six years after the adoption of the revised Resolution calling for additional studies, to review such studies related to additional allocations. In view of the current plans for the rapid design, development, testing, and installation of digital television systems, it is likely that the results of such studies would be available in time for consideration by WRC-06.

The feasibility of MSS sharing with broadcasting and other radiocommunication services in this band requires further study in ITU-R.

**MOD** USA/12/253

## RESOLUTION 728 (Rev.WRC-~~97~~2000)

## Studies relating to consideration of allocations in the broadcasting band 470-862 MHz to non-geostationary mobile-satellite services

The World Radiocommunication Conference (~~Geneva~~Istanbul, ~~1997~~2000),

*considering*

*a)* that the agenda of ~~WRC-97~~this Conference included consideration of the adoption of additional allocations for non-geostationary mobile-satellite services (non-GSO MSSs);

**MOD** USA/12/254

*b)* that the Report of the 199~~7~~9 Conference Preparatory Meeting (CPM-9~~7~~9) stated that the Radiocommunication Bureau has identified at least [~~23~~22] non-GSO MSS networks [as of 28 April 1999] at frequencies below 1 GHz, at some stage of coordination under Resolution **46**, and that many of the proposed networks cannot be implemented in the existing allocations because there is not enough spectrum;

*c)* that CPM-97 considered the protection requirements for analogue television in the band 470-862 MHz against a narrow-band MSS signal in the most sensitive and least sensitive portions of an analogue television channel and the protection requirements for a digital television channel, based on existing Recommendations ITU-R BT.655-4, ITU-R BT.417-4 and ITU-R IS.851-1;

*d)* that CPM-97 stated that the protection ratios for a narrow-band interfering signal in the least sensitive parts of an analogue television channel are to be verified by further studies;

*e)* that CPM-97 stated the region of lower protection requirements and commensurately higher permissible interfering power flux-density levels as being 100 kHz from the band edges of an analogue television channel, at least in some countries;

*f)* that CPM-97 stated that the interfering effects of a non-GSO MSS transmission will depend on its specific characteristics (e.g. duty-cycle, duration, periodicity, etc.), that interference contributions from sources other than MSS (even those from other broadcasting stations) have to be taken into account, that slightly lower values of field strength to be protected may need to be assumed in countries where television networks are relatively sparse, and that studies on sharing are necessary;

*g)* that the permissible aggregate interfering power flux-density resulting from these protection requirements, in some portions of an analogue television channel, may be useful in determining the feasibility of sharing with non-GSO MSS transmitter space-to-Earth links;

*h)* that these bands are also allocated in part to fixed and mobile terrestrial systems and radionavigation systems;

*i)* that, in many countries, the channels assigned for analogue television may also be used for digital television, and that during the period of parallel operation of analogue and digital television networks the usage of this band for television will increase,

*noting*

*a)* that on completion of studies, parts of the bands now allocated to the broadcasting service between 470 MHz and 862 MHz might be considered suitable for worldwide allocation to non-GSO MSS space-to-Earth transmissions;

*b)* that the bandwidth required in these television channels may be 1-2% of the total band 470-862 MHz to be shared with the above systems;

*c)* the need to protect the radio astronomy service in the band 608-614 MHz against interference from MSS transmissions, including unwanted emissions,

*resolves*

**MOD** USA/12/255

1 to invite ITU-R to carry out additional studies to determine operational and technical means that may facilitate co-frequency sharing between narrow-band non-GSO MSS (space-to-Earth) transmissions and the services to which the band 470-862 MHz is allocated, including the bands where the broadcasting service is also allocated, and including consideration of digital television systems;

**MOD** USA/12/256

2 to invite ~~a future competent conference~~WRC-06 to consider, on the basis of the results of the studies referred to in *resolves* 1, the possibility of making additional allocations on a worldwide basis for non-GSO MSS, taking into account, in particular, *considering h)* and *i)* above, with a view to considering allocations at a future conference,

*urges administrations*

to participate actively in such studies, with the involvement of interested parties.

**Reasons:** To extend the mandate of Resolution 728 to schedule a review of studies related to allocations at WRC-06, by which time studies can be completed based on the additional guidance of WRC-2000, and taking into account the interference and sharing criteria of digital TV broadcasting systems.

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